

## **Teaching Principles of Childhood Cancer with Computerized Cases**

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Pediatric oncology patients represent the largest number of non-neonatal hospitalizations to our children's hospital. These subspecialty patients are most often hospitalized for continuation of an already established treatment plan. A typical pediatric oncology patient might be admitted to the hospital for therapy or treatment of complications as many as ten times per year. Each hospitalization involves a different set of health care providers "in-training".

Having missed the initial presentation and treatment planning, the students and residents caring for these patients have a compromised learning experience. In addition, they may find it difficult to become appropriately involved with the continuing care of the patient. They need to review the initial diagnostic work-up and decision making in a more effective manner than boring, burdensome chart review. We created computerized case presentations of the initial evaluation of actual patients to facilitate their care and to teach the principles of childhood cancer.

Eight individual interactive case presentations of patients frequently hospitalized for continuing care were developed in the areas of B-progenitor acute lymphoblastic leukemia (ALL), T-cell ALL, acute myelocytic leukemia, Wilms' tumor, neuroblastoma, Non-Hodgkin's lymphoma, rhabdomyosarcoma and central nervous system tumors. These cases are presented as separate tutorials and are designed for easy access to appropriate pictures, histology, and radiologic studies pertinent to each case.

Each computerized case begins with the initial contact with the primary care physician. Diagnostic and treatment issues, as well as transition to the primary care provider, and follow-up in the local community are included. Initial options in diagnostic testing, therapy, and management are presented along with explanations of optimal therapy, established research protocol schedules, and management of actual and potential medical complications.

A Macintosh Centris 610 with a Movie Movie video card and a Sony Video 8 Camcorder were used for capturing images. Images were manipulated with Adobe Photoshop and the presentations were developed using Macromedia Director.

Problems in tracking usage of our programs and locating an evaluation tool have made it difficult to establish a research data base on training effectiveness. This should not, however, negate the benefits we have already noted in the resident and student care of our patients. Subjective confirmation of changes in perception and perceived confidence in long duration oncological management should not be minimized, for anecdotal narrative has long been a corner-stone of medical training. The use of computerized, interactive case presentations of actual patients is an extremely promising technique for teaching residents and students principles of childhood cancer.